

CRITICAL SUCCESS FACTORS IN SUPPLY CHAIN MANAGEMENT IN THE BANKING SECTOR IN GHANA: INTRODUCING SOCIO-ECONOMIC FACTORS AND AVAILABILITY OF FINANCIAL RESOURCES

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ABSTRACT

This paper introduces two critical success factors in supply chain management in the banking sector in Ghana after confirming six factors in a previous study. A quantitative research approach was used. The population of the study was employees in selected commercial banks in Ghana. The simple random sampling procedure was used to select 144 respondents. The Exploratory Factor Analysis retains six (6) success factors of supply chain management. The study shows that planning, competency, motivation, management commitment, communication and benchmarking are primary critical success factors in SCM. Yet, these factors are empowered by the socio-economic factor and availability of financial resources. Hence, the most fundamental critical success factors in supply chain management are the socio-economic factor and availability of financial resources. This implies that banks must first have access to funds and a suitable socio-economic environment before their SCM plans, communication strategies and the like could be savoured.

KEYWORDS: Supply Chain, Supply Chain Management, Supply Chain Success, Critical Success Factors, Socio-Economic Factors

INTRODUCTION

Supply chain management is becoming a core business management function among commercial banks in Ghana. This situation is evidently caused by the need for banks to sustain their relationship with suppliers, contractors and other business stakeholders in the face of increasing customer base of banks. Kristofik, Kok, de Vries & Hoff (2012) posit that banks need engagement in supply chain management as much as manufacturing firms need it.

The term supply chain has been defined in several ways from various perspectives. Agyei *et al.* (2013: 34) defines supply chain as “the network of organisations, which are involved through upstream and downstream linkages, in different processes and activities that create value in the form of products and services for final consumer”. Supply chain management is viewed as a business process that seeks to ensure efficient and effective flow of products, materials services, information from the supplier through to the customer (Agyei *et al.* 2013; Ab Talib *et al.* 2014). Based on the above definitions, supply chain management is a highly important management process that forms the basis of efficient and effective flow of products, services and logistics. Since businesses make financial returns from products and/or services, supply chain therefore comes with a medium in which services and products flow efficiently to create the needed link between organisation and its customers or stakeholders.

Based on the above definitions, supply chain is not a business process limited to a particular sector such as the manufacturing sector. Thus supply chain is basic to the growth of both service and product-focused organisations.

This assertion is justified by Agyei *et al.* (2013: 34) who make the submission that “supply chain management seeks to enhance competitive performance by closely integrating the internal cross-functions within a company and effectively linking them with the external operations of suppliers, customers, and other channel members”. As a result, both manufacturing and service firms need supply chain management as a management function to grow. Meanwhile, the relevance of supply chain to organisations is not only justified on theoretical and conceptual grounds.

Researches have shown that supply chain contributes to the growth of businesses, regardless of their sectors. Quesada *et al.* (2012), Mensah *et al.* (2014), Rozar *et al.* (2014) and others provide empirical evidences that point to the contribution of supply chain to the growth of manufacturing firms, while Wagner *et al.* (2012), Kristofik *et al.* (2012) and other researchers provide this evidence in the context of financial services delivery. Ngai *et al.* (2004) go further to indicate that web-based supply chain contributes to growth of businesses. In essence, supply chain is much versatile, providing value to organisations of all sectors and operations. Even so, it is believed that the contribution of supply chain to business growth depends on how much it is employed in the organisation.

Supply chain management is taking deep roots in banking (Kristofik *et al.*, 2012; Wagner *et al.* 2012). This is owing to the increasing deployment of banking logistics and equipment (e.g. ATMs, money counting machine, etc.) and the need to integrate banks with customers and stakeholders through banking services and products. Kristofik *et al.* (2012), in this respect, make the submission that there is an emerging need for banks to engage in financial supply chain, which is an avenue for disbursing financial resources among banks. In view of this development, it has been argued that the need for effective supply chain among banks is quite critical (Kristofik *et al.* 2012). They have therefore suggested that banks enhance their priority to supply chain and take steps to fine-tune their supply chain procedures towards maximised growth. It is however observed in a personal survey of past literature that research has not contributed much to supply chain practice in the banking sector. Thus a larger proportion of supply chain researches focus on the manufacturing sector, leaving a colossal hole in literature based on financial or banking supply chain.

According to Enporion Inc (2009), effective supply chain management within the organisation is based on what strategies management employ. To Ab Talib *et al.* (2014), Ngai *et al.* (2012) and Rozar *et al.* (2014), an effective supply chain is the one based on an observance of the success factors in supply chain management. Unfortunately, an insignificant number of studies hold this evidence from the perspective of commercial banking. It is even worse that no identifiable study points to this evidence in a Ghanaian context. Meanwhile, the growing commercial banking sector of Ghana ought to leverage the new developments in financial and banking supply chain to maximise growth.

We conducted a study to identify the primary critical success factors in supply chain management in banking. In the study, six factors were found, namely planning, competency of SCM staff, motivation, management commitment, communication and benchmarking. It has been realised from the literature that two other factors could be introduced into the list of the six factors. These factors are the *socio-economic factor* and *availability of financial resources* (Wagner *et al.*, 2012). We did not incorporate these factors in the previous study because they serve two roles, unlike the six factors; hence incorporating them would have made the study excessively bulky. Firstly, they serve as critical success factors in SCM in the banking sector (Wagner *et al.*, 2012; Kristofik *et al.*, 2012). Secondly, they moderate the relationship between each of the six factors and SCM Success (Wagner *et al.*, 2012; Kristofik *et al.*, 2012).

To make our investigation complete, there is the need to capture these two factors in a separate paper to assess their influence on SCM Success in the banking sector in Ghana. In this study therefore, the researchers examine the effects

of the socio-economic factor and availability of financial resources on SCM Success in the banking sector from the perspective of the six primary factors.

OBJECTIVE OF THE STUDY

In this paper, we examine the effect of two newly introduced critical factors on SCM Success in the banking sector in Ghana from the perspective of six critical success factors already confirmed by us in a previous study (i.e. planning, competency of SCM staff, motivation, management commitment, communication and benchmarking). We investigate the effect of these two factors on SCM Success and their moderating role in the relationship between each of the six factors previously confirmed and SCM Success.

This paper buttresses existing empirical evidence that points to the socio-economic factor and availability of financial resources as the most primary critical success factors in supply chain management. Knowledge shared in this paper would enlighten managements and government about measures to take to maximise the impact of SCM on organisations.

LITERATURE REVIEW AND HYPOTHESES

Historically, the first firms to incorporate supply chain in their operations are product-oriented organisations or manufacturers (Chiu, 1995; Kuei & Madu, 2001). These firms make a greater part of their revenue from the distribution and sales of products (Chiu, 1995).

Generally, reaching a group of customers within a wide geographical area is best done in supply chain. Consequently, the supply chain idea and process has its root in the distribution and sales of products or finished goods in manufacturing firms (Ngai et al., 2004; Enporion, Inc, 2009). Unlike product organisations, supply chain was of little importance to many service firms in the past (Kristofik et al., 2012). This is because services, such as banking services, were initially delivered at the premises of firms. The situation has however changed in recent years.

In modern times, supply chain is much relevant to service delivery (Kristofik et al., 2012). Moreover, supply chain management is also relevant to the success of all service organisations. On the first hand, banks do not deliver all services at their premises; thus service delivery in banks has been taken to the doorsteps of customers (Kristofik et al., 2012). It is argued that the movement of employees of banks to customers and the process involved in this activity follows the supply chain format (Ngai et al., 2004; Kristofik et al., 2012). Many banks therefore currently employ strategies, procedures and technologies of supply chain to delivery services to customers from a distance.

The door-to-door service delivery of banks follows a supply chain format because the customer who is the end-user, agent or distributor (i.e. the employee) and the manufacturer (the bank) all exist (Kristofik et al., 2012). Moreover, the style of transferring services to the customer is the same in the distribution of finished goods to customers through distributors and retailers (Kuei & Madu, 2001; Kristofik et al., 2012). In fact the same set of factors such as communication and benchmarking determine success in banking supply chain (Kristofik et al., 2012).

Even before banks began to take services to the door steps of customers, supply chain was in use in the banking sector (Kristofik et al., 2012). In this respect, supply chain is used as a means of supplying each department with its needed logistics and raw materials such as computers, printers, modems and other managerial devices. Moreover, the whole bank is equipped with its logistics such as money counting machines, teller machines and anti-theft systems through supply

chain. Supply chain management is a regular aspect of banks because the supply of these materials is unbroken (Kristofik et al., 2012). This is due to the continual expansion of banks and their customer base.

In recent years, virtually all banks in Ghana and other countries have supply chain departments or units. The problem is however the fact that research on supply chain management is unpopular in the banking sector (Kristofik et al., 2012). This problem is rendered weighty because supply chain procedures used in banks are not much different from the standards known.

Several qualitative and quantitative studies (e.g. Kuei & Madu, 2001; Marwah et al., 2014; Ab Talib et al., 2014; etc.) have provided evidence on what the success factors of supply chain management are. By observation, these studies have similarities and differences in terms of the list of factors unfolded. Some researchers merely used different names to refer to some of the success factors. For instance; some researchers refer to “communication” as “information flow”, while others refer to “benchmarking” as “monitoring and control”. But there are situations where some of the factors provided are entirely different. According to Ngai et al. (2004), this situation is as a result of slight differences in supply chain based on the sector and business involved. So many researchers identify these success factors based on the nature of the business and sector involved.

Supply chain management in service organisations, or financial service organisations is based on almost a common procedure. As a result, studies focused on success factors of supply chain in service organisations provide a common list of factors. As a result, this study would be based on success factors revealed in the study of Kristofik et al. (2012), which unfold the exact success factors of supply chain management in the banking sector. In their study, six success factors are revealed. These are planning, employee commitment; top management commitment; training and education; communication; benchmarking. For the sake of clarity, these factors must be explained in the context of supply chain management.

It is proved by many researchers that supply chain management success is dependent on the thoroughness and appropriateness of the planning associated with it. Planning in the context of supply chain is the process of drawing a schema and road map of work to define all the processes and activities of the chain and their timelines and schedules (Kurien & Qureshi, 2011; Quesada et al., 2012). According to Ngai et al. (2004), the plan involves who does what, at what time, and how? It defines the roles and actions of each stakeholder in the network and establishes policies and strategies for evaluating and controlling success (Ngai et al., 2004; Kurien & Qureshi, 2011). Success in supply chain is strongly linked to planning because it forms the basis of whatever is done and achieved. But since planning is done by people, there is a school of thought that it cannot well impact supply chain management success if employees and stakeholders of the company are not committed.

A second factor that drives success in supply chain management is therefore employee or stakeholder commitment (Marwah et al., 2014; Attaran, 2012). In some studies, it is referred to as “employee motivation”. Motivation significantly drives success in supply chain because it determines the dedication of employees to their responsibilities defined in planning (Attaran, 2012). Without employee motivation, a good plan would hardly work for the organisation because employees would be unwilling or reluctant to play their roles in achieving goals in the supply chain process. Employee motivation comes from a wide range of primary factors. These are remuneration, work condition, fringe benefits, management recognition and appreciation of their roles and suitability of work environment (Kurien & Qureshi, 2011; Quesada et al., 2012). Failure of organisations to ensure that their supply chain employees are

well motivated would hinder the realisation of maximum performance. But often, employee motivation in the organisation depends on the commitment of its management to supply chain.

A third factor of supply chain success is management commitment (Kurien & Qureshi, 2011; Quesada et al., 2012; Okino & Cattini, 2011). Without management commitment, the organisation may be unwilling to deploy financial resources for the implementation of the supply chain process. Moreover, a lack of commitment from management of the organisation would mean that issues of supply chain would not be taken seriously. The motivation, recruitment and training of supply chain employees would also be badly affected, likewise the relationship between the organisation and its external supply chain partners and stakeholders. It is therefore required that top managements of organisations become commitment to supply chain. According to Quesada et al. (2012), this can be achieved when management of organisations focus on the short and long-term benefits of supply chain. If they recognise the value of supply chain, they would be able to commit to its tasks and requirements.

Training and education are the fourth success factor in supply chain management. Training and education is needed to equip employees with the necessary skills and knowledge so to be able to play their roles as defined in the supply chain planning (Quesada et al., 2012; Thakkar, 2008; Thoo et al., 2011). From a personal standpoint, education and training must be preceded by strategic selection of employees for the supply chain department. If recruitment should be blended into this factor, then it could be referred to as the competency needed by employees and all stakeholders to play their role in the supply chain process. Competency in this context is much relevant to supply chain success, as it is the basis of effective communication (Rozar et al., 2014; Wagner et al., 2012).

Communication is a major success factor in supply chain management. In fact, it is the most common factor among all studies based on the subject. Many researchers (e.g. Wagner et al., 2012; Quesada et al., 2012; Thakkar, 2008; Thoo et al., 2011) have argued that without effective communication among supply chain employees and stakeholders, the network is broken and its activities come with no success. This is because the relationship among distributors, suppliers and retailers is glued by communication. Hence every member of the network needs to understand effective communication and how to relish it in the supply network. As mentioned earlier, education, training and making sure that the right people are hired are the basics to effective communication in all supply chain processes. Yet, effective communication also underlies effective benchmarking (Thakkar, 2008; Thoo et al., 2011), which is another major success factor in supply chain management.

It has been argued that success in supply chain management cannot be measured without benchmarking (Ai-Chin et al., 2010). With benchmarking, it is possible to monitor and control activities of supply chain (Thakkar, 2008; Thoo et al., 2011). This process enables management to use strategies for hedging against potential flaws and problems that threaten success in the supply chain (Ai-Chin et al., 2010). The relative importance of benchmarking is popularly upheld in the literature because every supply chain process comes with setbacks and challenges that must be identified and troubleshot (Thakkar, 2008; Thoo et al., 2011; Ai-Chin et al., 2010). Supply chain management performance in all organisations is therefore dependent on benchmarking.

There are other success factors of supply chain. Yet these factors are often treated as a composite factor in the banking sector. Moreover, they make a collective effect on supply chain success. These factors are termed socio-economic factors which cannot be controlled by the banks. These factors are suitable economic indicators such as inflation and exchange rate and government support in the form of infrastructure (Kristofik et al., 2012). Studies

(e.g. Kristofik et al., 2012; Kuei & Madu, 2001; etc.) have shown that these factors largely influence supply chain success, though they are not within the control of firms. Yet, another factor that may be placed in this category but which is largely influenced by the firm is the availability of financial resources in the organisation. No matter the level of commitment of management, financial resources must be available for deployment for the implementation of supply chain.

In Figure 1 is a framework of the above factors. In this framework, the socio-economic variables (designated 1, 2 and 3) and availability of financial resources (designated 4) are treated as covariates (Kristofik et al., 2012), since the first six factors depend on them. It is worth mentioning that factors in Figure 1 have been identified in various studies and very much relate to SCM in the banking sector. Hence, our investigation is based on this framework. Moreover, the six critical success factors at the extreme left-hand side of Figure 1 have already been confirmed in our previous study. So this study is limited to assessing the effect of the socio-economic factor and availability of financial resources on the six factors and SCM Success.

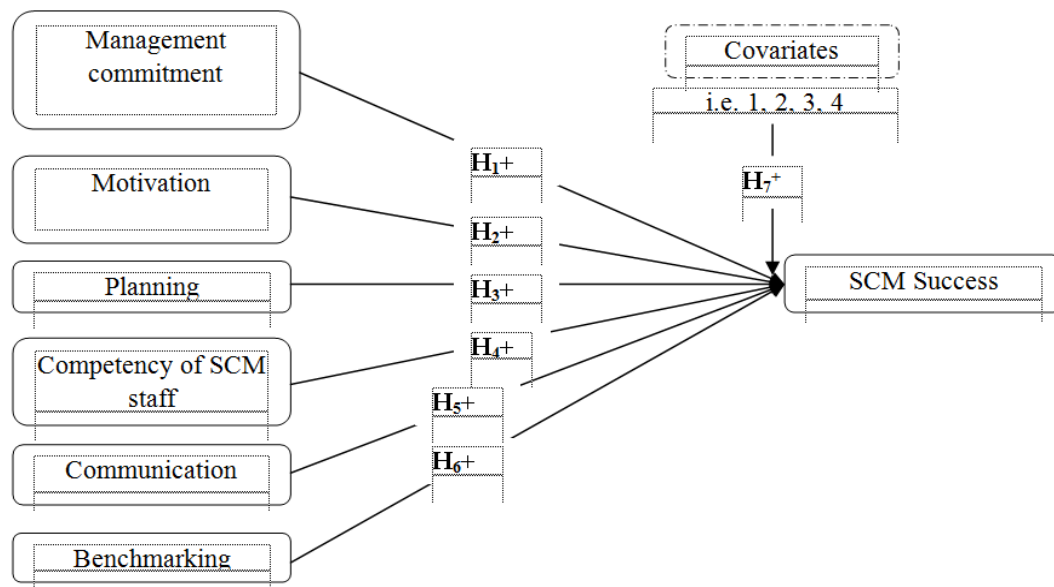


Figure 1: Conceptualisation of Critical Success Factors in SCM

With reference to the factors identified in the study of Kristofik et al. (2012), “employee commitment” is referred to as “motivation” and “training & education” is referred to as “competency of SM staff”. Factually, there is no change in how these variables are measured in this study; the researcher only changes their names to make them more comprehensive in a Ghanaian context. The first three covariates are termed *socio-economic factor*. These are: (1) suitable economic environment (stable inflation, exchange rate, interest rate, etc.); (2) government support in terms of social infrastructure provision; and (3) suitability of internal and public regulatory framework. With respect to this framework, it could be hypothesised that:

- The socio-economic factor and availability of financial resources positively affect SCM Success in the banking sector in Ghana.
- The socio-economic factor and availability of financial resources positively affect planning, competency of SCM staff, motivation, management commitment, communication and benchmarking.

METHODS AND MATERIALS

The quantitative research approach was used in this study. This research approach was opted for in view of the need to test the alternative hypothesis of this study, or in modelling the relationship between supply chain success and its determinants (i.e. success factors). This is because studies involving hypotheses testing are generally considered appropriate when given a quantitative dimension (Creswell, 2003). Moreover, the use of inferential statistical tools in analysing data takes place in quantitative studies (Rice, 1995; Creswell, 2003). By adopting the quantitative research, it becomes feasible to test for data reliability and other assumptions governing the use of the chosen inferential statistical tools.

The population of this study was management employees in commercial banks listed on Ghana Stock Exchange in Ghana. The target population of this study was administrative employees (who had worked for at least 2 years) in the supply chain departments of the head offices of Ghana Commercial Bank (GCB), National Investment Bank (NIB), Standard Chartered Bank (SCB) and Ecobank. The target population also involved senior employees from other departments who had worked in their respective banks for at least 2 years. These banks were used because they provided access to information owing to the fact that they are listed on the Ghana Stock Exchange. Participants were expected to have worked for at least 2 years in their respective banks to ensure that the information provided by them was based on substantial work experience. The target population of employees in the four commercial banks was 233. Since the researcher could not collect data on all 233 employees, a sample of this number was needed.

Barreiro & Albandoz (2001) posits that quantitative researches must be associated with random and representative samples. This is because the goal of inferential statistical analysis or hypothesis testing is to generalise findings. If a sample is not representative and random, it is not appropriate for results of a study to be generalised. In view of this argument, the simple random sampling technique was employed in this study. This sampling procedure gives all population units equal chances of being selected into the sample; hence the generalisation of results is more appropriate with it (Bartlett et al., 2001; Barreiro & Albandoz, 2001). Moreover, the balloting method of this sampling method was used. Based on its credibility and the fact that it makes room for about 10% missing questionnaires, the sample size determination procedure of Krejcie & Morgan (1970) was used to determine the sample size of 144.

The dependent variable of this study is Supply Chain Management Success designated as “SCM Success”. This variable is a construct that has several manifest variables, and definitions. In the context of banking supply chain, SCM success is a measure of a supply chain process that yields results that support the performance of every department and the entire organisation (Kristofik et al., 2012). In measuring SCM success, the fulfilment of the individual roles of supply chain management at all stages is considered (Ngai et al., 2004; Kristofik et al., 2012). It is assumed that SCM contributes to the performance of each department when its roles are fulfilled at all stages in the supply chain. Hence, Kristofik et al., (2012) suggest that SCM Success be measured on the basis of how much the role of supply chain has been fulfilled at all stages. Based on this argument, SCM Success was measured in this study by identifying from employees the extent to which each aspect of supply chain management (e.g. planning, recruitment, communication, etc.) has been accomplished. In harmony with the measurement approach of Kristofik et al. (2012), respondents were asked to score (from 1 to 5) the extent to which the role of each stage of SCM has been fulfilled.

The independent variables of this study are the six success factors, the socio-economic factors and availability of financial resources. These variables have already being explained in the previous chapter. Each of them has several

manifest variables as noticed in the study of Kristofik et al. (2012), and was measured using the same approach used for the dependent variable, SCM Success. Since the socio-economic factors and availability of financial resources are treated as covariates in this study, the six success factors are dependent variables to it.

A self-administered questionnaire was used to collect data. This type of instrument was used to ensure that respondents could be given two options of responding; thus either by e-mail delivery or hand delivery. Using this instrument also made response easier and flexible for respondents. This is because they were given sufficient time to respond as a result of their work schedules. This questionnaire was built on a five-point likert scale using items borrowed from the studies of Kristofik et al. (2012), Kurien & Qureshi (2011), Ab Talib et al. (2014) and Rozar et al. (2014).

A number of measures were taken to ensure that the data collected was valid and reliable. One of these measures was to use items that conform to previous research studies. Moreover, the instrument was submitted to research professionals to review and suggest corrective measures. A pilot study was conducted using a sample of employees from Standard Chartered Bank Ghana to eliminate errors and misstatements, ensuring that it was sufficiently valid and reliable.

Prior to data collection, the human resource managers in the various banks were notified about the study and the information needs of the researcher. A request was made to inform members of the sample or respondents. The researcher was given access to the e-mail addresses and office telephone lines of the respondents. Each respondent was contacted by means of an e-mail or telephone call to inform him or her about the study and the medium of response he or she would want to use. The human resource managers provided suitable dates for administering questionnaires by hand delivery. E-mail delivery of questionnaires was done as soon as respondents were informed of the study and agreed to respond. Some questionnaires were administered by hand delivery in five working days, while it took a day to deliver the rest of the questionnaires by e-mail. Responds were given 14 working days to respond and return completed questionnaires. For one or two reasons, not all respondents could return questionnaires. Some return questionnaires also had issues. Hence, a total of 105 completed questionnaires were deemed appropriate for incorporation in data analysis. Thus the response rate of this study was 73%.

Data was analysed using SPSS Version 21. This statistical software was used as a result of its robustness for relational statistical data analysis. The Exploratory Factor Analysis (EFA) was used to reduce the dimension of the success factors and dependent variable, SCM Success. Rice (1995) acknowledges the appropriateness of this statistical tool for in this context. The Pearson's correlation test was used to examine the correlation between SCM Success and each of the six factors. The partial correlations test was used to verify the moderating role of the three socio-economic variables and availability of financial resources. In testing for the moderation, the three socio-economic variables and availability of financial resources were treated as a construct named "socio-economic variable". These statistical tools (EFA, Pearson's correlation test and partial correlations test) were deemed appropriate for understanding the detailed relationships among the variables as conceptualised in Figure 1. They were also used because data employed was continuous in nature and was found to come from a normally distributed population. Results of the study are presented in the next section.

FINDINGS

In this section, results of this study are presented. To ensure that results are valid, data used must come from a normally distributed population based on the decision to use regression analysis in analysing data. Table 1 verifies whether

data used in this study were normally distributed or came from a normally distributed population.

Table 1: Normality of Data

	Shapiro-Wilk		
	Statistic	df	Sig.
Planning	.193	105	.531
Competency of SCM staff	.260	105	.207
Motivation	.170	105	.652
Management commitment	.280	105	.176
Communication	.284	105	.132
Benchmarking	.224	105	.231
SCM Success	.107	105	.845

Source: Field Data, 2014

Table 1 is used to verify the normality of the data drawn from the population. The general null hypothesis is that data associated with the major variables of interest were drawn from a normally distributed population. This hypothesis must be confirmed so that results of this study would be valid. This hypothesis is tested at 5% significance level, and the p-value of each variable must be greater than this significance level if the data associated with it is normally distributed. From the table, the p-value of each variable is greater than 5% ($p > .05$). This means that data on each variable is normally distributed. A basis for reaching valid conclusions is therefore established.

Table 2 in the appendix shows results of the EFA. From the table, the six success factors of supply chain management are identified. Out of these factors, employee motivation contributes the highest amount of variation (43.2%). The second highest amount of variation (22.8%) is contributed by competency of SCM staff. The six factors account for a total of 96.7% of variation, and this indicates that the factors strongly relate SCM Success. In the table, no manifest variable is extracted from the factors, a situation translated in the high variation contributed by the six factors. This is because none of the manifest variables has a communality value less than 0.50. Generally, the EFA extracts all variables with communalities of 0.50. Based on the variations contributed, motivation may be considered the most important success factor, followed by competency, planning, management commitment, communication and benchmarking.

Table 3: Correlation Matrix

		A	F1	F2	F3	F4	F5	F6
Pearson Correlation	SCM Success (A)	1.000	.859	.716	.920	.892	.582	.766
	Planning (F1)		1.000	.777	.905	.847	.138	.420
	Competency of SCM staff (F2)			1.000	.574	.665	.195	.258
	Motivation (F3)				1.000	.832	.389	.665
	Management commitment (F4)					1.000	.249	.475
	Communication (F5)						1.000	.900
	Benchmarking (F6)							1.000

Table 3 shows the correlation between SCM Success and each of the six factors retained in the EFA. From the table, each factor is highly positively correlated to SCM Success as conceptualized in Figure 1. This means that SCM Success improves as each of the factors is improved in practice. Motivation makes the highest correlation with SCM Success ($r = .920$, $p < .05$), followed by management commitment ($r = .892$, $p < .05$), where communication makes the least effect on SCM Success ($r = .582$, $p < .05$). The strength of the correlations expresses the extent to which a factor influences SCM Success. This means that motivation makes the highest influence on SCM Success. Now, there is the need to see how SCM Success correlates to each of the socio-economic variables and availability of financial resources.

This is shown in Table 4.

Table 4: Correlation of SCM Success and Socio-Economic Variables

	A	B	C	D	E
SCM Success	1	.427**	.679**	.941**	.869**
Suitable economic environment (stable inflation, exchange rate, interest rate, etc.) – A		1	.690**	.463**	.588**
Government support in terms of social infrastructure provision – B			1	.705**	.676**
Availability of financial resources to the bank – C				1	.896**
Suitability of internal and public regulatory framework – D					1

***Correlations significant at .05 level of significant*

Table 4 shows the correlation of each socio-economic variable and SCM Success. From the table, SCM Success is positively correlated to Suitable Economic Environment ($r=.427$, $p<.05$), government support ($r=.690$, $p<.05$), availability of financial resources to the bank ($r=.941$, $p<.05$) and suitability of internal and public regulatory framework ($r=.869$, $p<.05$). This means that SCM success is improved as these four variables are improved, where availability of financial resources to the banks makes the strongest effect on SCM Success. Suitability of economic environment makes the least and weak positive effect on SCM Success.

Table 5: Moderation of Socio-Economic Variable

Control Variables	Variable Pair	Original r	Controlled r	Change in r	% Change in r	Controlled p-Value
Socio-economic variable	SCM Success*Planning	0.859	0.584	-0.275	-32%	0.000
	SCM Success*Competency of SCM staff	0.716	0.522	-0.194	-27%	0.000
	SCM Success*Motivation	0.920	0.682	-0.238	-26%	0.000
	SCM Success*Management commitment	0.892	0.845	-0.047	-5%	0.000
	SCM Success*Communication	0.582	0.057	-0.525	-90%	0.574
	SCM Success*Benchmarking	0.766	0.022	-0.744	-97%	0.828

Table 5 shows the partial correlation of each factor SCM Success. In this table, the effect of the socio-economic variable (that includes availability of financial resources) is controlled for. From the table, the strength of the relationship between planning and SCM success decreases from 0.859 to 0.584 when the effect of the socio-economic variable is controlled for. This means that 32% of the strength of the relationship is accounted by the socio-economic variable. In essence, the socio-economic variable influences planning. This explanation applies to other factors in the table. Yet, the largest influence is made by the socio-economic variable on communication and benchmarking. In terms of communication, the socio-economic variable contributes 90% of the influence, while it contributes 97% of the variation on benchmarking. This means that almost all the influence made by communication and benchmarking on SCM Success comes from the socio-economic variable. It must be borne in mind that “availability of financial resources” is part of the socio-economic variable in Table 5. Based on results seen above, the framework of Figure 1 is confirmed in Ghana from a banking perspective.

DISCUSSIONS

As realised in our previous study, each success factor is highly positively correlated to supply chain management success. This means that supply chain management success is enhanced when planning, motivation, employee competency, management commitment, communication and benchmarking improves. This scenario is the common attribute of other

descriptive and quantitative studies (e.g. Thakker et al., 2008; Thoo et al., 2011; Rozar et al., 2014; etc.) on the subject. The fact is that these correlations form a basis of the OLS regression in our previous study in which the relationship between the 6 factors and SCM Success is best expressed. The model formed in the OLS regression indicates that the effects made on SCM Success from the 6 factors are positive. Competency of employees contributes the highest effect on SCM success, followed by motivation, where planning accounts for the least coefficient or effect on SCM Success. Relative to the EFA, motivation has become the second highest driver of SCM Success in the OLS regression instead of being the first. Of course once the OLS regression is more robust, this result is acceptable. It is therefore logical to say that competency of supply chain management staff is the best determinant or driver of SCM Success in a Ghanaian context. Though this result is theoretically backed (Kristofik et al., 2012), there are other evidences that reveal other factors as best drivers of SCM success. Thus there is inconsistency in the literature as to which factor best drives SCM Success. This inconsistency could be linked to population differences though.

The socio-economic factor makes a significant positive correlation to SCM Success. Thus SCM Success is positively correlated to suitable economic environment ($r=.427$, $p<.05$), government support ($r=.690$, $p<.05$), and suitability of internal and public regulatory framework ($r=.869$, $p<.05$). This means that SCM success is improved as these three variables are improved, with availability of financial resources making the strongest effect on SCM Success, ($r=.941$, $p<.05$). Suitability of economic environment makes the least and weak positive effect on SCM Success. Kristofik et al. (2012), Thoo et al. (2011) and Rozar et al. (2014) are the few studies to incorporate this scenario in their theoretical review. But a better confirmation of this result is given by Kristofik et al. (2012), since their study was based on the financial services sector.

It is also found that the socio-economic factor relates to each success factor and SCM success. Thus they are found to be significant moderators of the effect made on SCM success by the 6 factors. Though the study of Kristofik et al. (2012) support this result, their evidence is non-empirical. So it could be said that more studies are needed to determine and buttress the effect of the socio-economic factor and availability of financial resources on SCM success and the 6 factors. Within the scope of this study, the socio-economic factor and availability of financial resources are constructs that could serve as the 7th and 8th success factors in SCM respectively. But this is subject to verification in future researches before incorporation in the subject's literature. Moreover, these two factors could be considered the most fundamental success factors in SCM since the first six factors are dependent on them.

CONCLUSIONS

The three socio-economic manifest variables (which make up the socio-economic factor) make a significant positive correlation to SCM Success. Thus SCM Success is positively correlated to suitable economic environment ($r=.427$, $p<.05$), government support ($r=.690$, $p<.05$), and suitability of internal and public regulatory framework ($r=.869$, $p<.05$). Moreover, availability of financial resources positively correlates to SCM Success ($r=.941$, $p<.05$). This means that SCM success is improved as these four variables are improved, where availability of financial resources to the banks makes the strongest effect on SCM Success. Suitability of economic environment makes the least and weakest positive effect on SCM Success.

The strength of the relationship between each success factor and SCM success decreases when the effect of the composite socio-economic variable is controlled for. Yet, the largest influence is made by the socio-economic variable on communication and benchmarking. In terms of communication, the socio-economic variable contributes 90% of the

influence, while it contributes 97% of the variation on benchmarking. This means that almost all the influence made by communication and benchmarking on SCM Success comes from the socio-economic variable.

The socio-economic factor and availability of financial resources correlate to SCM Success and each of the six success factors confirmed earlier. This implies that the socio-economic factor and availability of financial resources also constitute success factors of supply chain among banks. But these two factors are more fundamental to SCM Success because the other six success factors are dependent on them.

Consequently planning, competency, motivation, management commitment, communication and benchmarking are primary critical success factors in SCM. Yet, these factors are empowered by the socio-economic factor and availability of financial resources to the banks. Hence, the most fundamental critical success factors in supply chain management are the socio-economic factor and availability of financial resources. This implies that banks must first have access to funds and a suitable socio-economic environment before their SCM plans, communication strategies and the like could be savoured.

RECOMMENDATIONS AND FUTURE RESEARCH DIRECTIONS

Supply chain activities occur in a large geographical area. As a result, many factors which are beyond the full control of the organisation influence supply chain success. Moreover, the government has better and full control over these factors. An example is the nature of regulations affecting supply chain in Ghana. Inflation, interest rate and exchange rate are factors that influence availability of financial resources to organisations and their supply chain departments. The government is therefore encouraged to create a congenial economic and regulatory atmosphere for supply chain activities and departments to thrive. Regulations that hamper easy and progressive supply chain such as excessive limitation of vehicular weight on highways must be avoided. Issues in the public procurement law must also be addressed since procurement is a major part of supply chain. The government must use the Central Bank to moderate the economy to make exchange and interest rate lower. This will enable banks and other organisations to access funding for supply chain activities. It will also pave way for easy importation of raw materials.

It is suggested that future researchers conduct this study on a wider population of employees from the banking sector in Ghana. More commercial banks should be incorporated into this study to ensure that results could be better generalised to reflect a nationwide situation. There is also the need to conduct this study in other sectors such as health and public sector firms. This is because empirical evidences on the subject in these sectors are scarce from a Ghanaian perspective. Since this study has provided a clue about the significant effect of the three socio-economic variables and availability of financial resources on SCM Success, future researchers should capture them among the six success factors in their investigations.

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APPENDICES

Table 1: EFA Statistics

Number	Factor	Manifest variable	Initial	Extraction	Variation (%)
1	Planning	SCM activity determination	1	0.948	12.6
		SCM activity planning	1	0.948	
		SCM activity scheduling	1	0.777	
2	Competency of SCM staff	Employee recruitment for SCM	1	0.967	22.8
		Selecting partners/stakeholders for SCM	1	0.967	
		Employee training for SCM	1	0.705	
		Training of partners/stakeholders for SCM	1	0.948	
		Education for SCM employees	1	0.924	
3	Motivation	Salaries for SCM employees	1	0.812	43.2
		Allowances and fringe benefits for SCM employees	1	0.932	
		Work condition for SCM employees	1	0.815	
		Nature of work environment to SCM employees	1	0.948	
4	Management Commitment	Availability of financial resources to SCM	1	0.922	7.3
		Management attention to SCM	1	0.922	
		Management's responsiveness to SCM activities and problems	1	0.916	
		Monitoring and evaluation of SCM activities	1	0.896	

Table 1: Cond.,

5	Communication effectiveness	Effective communication among SCM employees	1	0.886	5.7
		Effective communication among SCM partners and stakeholders	1	0.942	
		Effective communication at all stages of SCM	1	0.876	
6	Benchmarking	Setting appropriate standards for meeting goals of SCM	1	0.920	5.1
		Setting appropriate performance targets for meeting goals of SCM	1	0.950	
		Meeting SCM goals based on standards and targets	1	0.958	
Total					96.7

